

Amendment After Final
Attorney Docket Number: 6771USD1
March 4, 2004

This listing of claims will replace all prior versions, and listings of the claims in the application:

Listing of Claims:

1-25 (Previously Canceled)

26. (Currently Amended) A method for suturing a puncture of a blood vessel through a tissue tract of a patient body, the vessel having a vessel wall, the method comprising:

inserting a distal end of a probe through the puncture and into the blood vessel;
advancing a first end of a suture from the probe within the tissue tract, through the vessel wall, and into the vessel;

withdrawing the first end of the suture from the vessel, through the vessel wall, wherein said first end of said suture passes through a bight, said bight releasably attached to the probe to form a loop of suture across the puncture; and

tensioning the first end of the suture and a second end of the suture adjacent to the bight to form a knot affixing the loop of suture across the puncture.

27 (Canceled)

28-47 (Previously Canceled)

48. (Currently Amended) A method of closing an aperture in a wall of a vessel, the method comprising:

causing a device to place at least one suture element through a vessel wall adjacent an aperture in the vessel wall, such that opposed portions of the suture element extend from the vessel wall;

causing the device to form a [loose] knot formation between the opposed portions [of the at least one suture element after the suture element had been placed] of the suture element by causing the device to pass the other of the opposed portions of the suture element through a loop formation, the loop formation defined by one of the opposed portions of the suture element; and

tightening the knot formation thereby at least partially to close the aperture in the vessel wall.

50. (Canceled)

51. (Canceled)

52. (Currently Amended) The method of Claim [52] 48, wherein tightening of the [loose] knot formation comprises pulling the opposed portions of the suture element away

Amendment After Final
Attorney Docket Number: 6771USD1
March 4, 2004

from each other after the other of the opposed portions had been passed through the loop formation.

53. (Currently Amended) The method of Claim 52, which comprises causing the [loose] knot formation to travel toward the aperture in the vessel wall and the [loose] knot formation to tighten when at the aperture in response to pulling the opposed portions away from each other.

54. (Previously Presented) The method of Claim 52, which comprises causing the loop formation to be released from the device in response to pulling the opposed portions away from each other.

55. (Previously Presented) The method of claim 48, wherein causing the device to place at least one suture element through the vessel wall adjacent the aperture in the vessel wall comprises causing the device to place at least two suture elements through the vessel wall adjacent the aperture such that opposed portions of each suture element extends from the vessel wall.

56. (Previously Presented) The method of Claim 55, wherein causing the device to place at least two suture elements through the vessel wall comprises causing the device to place each suture element through the vessel wall such that each suture element extends through the vessel wall on one side of the aperture, across the aperture, and through the vessel wall on an opposed side of the aperture.

57. (Currently Amended) The method of claim 56, wherein causing the device to form a [loose] knot formation between the opposed portions of the at least one suture element comprises causing the device to form a [loose] knot formation between the opposed portions of each suture element.

58. (Currently Amended) The method of claim 57, wherein one of the opposed portions of each suture element defines a loop formation, causing the device to form a [loose] knot formation between the opposed portions of each suture element comprising causing the device to pass the other of the opposed portions of each suture element through the loop formations.

59. (Previously Presented) The method of claim 58, wherein the loop formations are held on the device releasably, causing the device to pass the other of the opposed portions of each suture element through the loop formations comprising causing the device to pass the other of the opposed portions through the loop formations while the loop formations are held on the device.

60. (Currently Amended) The method of claim 59, which comprises tightening each [loose] knot formation thereby to close the aperture in the vessel wall.

Amendment After Final
Attorney Docket Number: 6771USD1
March 4, 2004

61. (Currently Amended) The method of Claim 60, wherein tightening the [loose] knot formations comprises pulling the opposed portions of each suture element away from each other after the other of the opposed portions have been passed through the loop formations.

62. (Currently Amended) The method of claim 61, which comprises causing the [loose] knot formations to travel toward the aperture and the [loose] knot formations to tighten when at the aperture in response to pulling the opposed portions away from one another.

63. (Previously Presented) The method of claim 61, which comprises causing the loop formations to be released from the device in response to pulling the opposed portions away from each other.

64. (Previously Presented) The method as claimed in claim 48, wherein causing the device to place the or each suture element through the vessel wall comprises causing the device to pass an end of the or each suture element through the vessel wall on one side of the aperture to form a position outside the vessel, causing the device to pass the or each end across the aperture inside the vessel, and causing the device to pass the or each end through the vessel wall at the opposed side of the aperture such that the or each suture element extends through the vessel wall on the one side of the aperture, across the aperture, and through the vessel wall on the opposed side of the aperture.

65. (Previously Presented) The method of claim 64, wherein causing the device to place the or each suture element through the vessel wall comprises passing an end portion of the device through the aperture in the vessel wall.

66. (Currently Amended) The method of claim 57, wherein one of the opposed portions of each suture element defines a loop formation, causing the device to form a [loose] knot formation between the opposed portions of each suture element comprising causing the device to pass the other of the opposed portions of each suture element through the loop formations.

67. (Previously Presented) The method of claim 66, wherein the device comprises at least one connection element releasably held on the foot, the or each connection element being arranged to extend across the aperture when the foot is deployed, causing the device to place the or each suture element through the vessel wall comprising causing the device to engage the end of the or each suture element with an end of the or each connection element after the end of the or each suture element has been passed through the vessel wall on the one side of the aperture.

68. (Previously Presented) The method of claim 67, wherein causing the device to place the or each suture element through the vessel wall further comprises causing the

Amendment After Final
Attorney Docket Number: 6771USD1
March 4, 2004

device to pull an opposed end of the or each connection element through the vessel wall on the opposed side of the aperture after the end of the or each suture element has been engaged with the end of the or each connection element, thereby to cause the device to pass the end of the or each suture element through the vessel wall at the opposed side of the aperture.

69. (Currently Amended) A device for closing an aperture in a wall of a vessel, the device comprising:
a body;
at least one suture element held [on]within the body; and
means for passing the suture element through the vessel wall adjacent an aperture in the vessel wall, such that opposed portions of the suture element extend from the vessel wall wherein one of the opposed portions passes through a bight disposed within the body thereby forming [and the suture element defines] a loose knot between the opposed portions thereof [and] after the suture element has been passed through the vessel wall.

70. (Previously Presented) The device of Claim 69, wherein the means for passing the suture element through the vessel wall adjacent the aperture is arranged to pass the suture element through the vessel wall such that the suture element extends through the vessel wall on one side of the aperture, across the aperture, and through the vessel wall on an opposed side of the aperture.

71. (Currently Amended) The device of claim 70, which comprises at least two suture elements held within [on] the body and means for passing each suture element through the vessel wall such that each suture element extends through the vessel wall on one side of the aperture, across the aperture, and through the vessel wall on an opposed side of the aperture and each suture element is positioned to form a loose knot formation between opposed portions thereof and after the suture elements have been passed through the vessel wall.

72. (Currently Amended) A device for closing an aperture in a vessel wall, the device comprising:
a body;
at least one suture element held within [on] the body; and
at least one needle within [on] the body, the needle being operatively associated with the suture element and arranged to pass the suture element through the vessel wall and through a bight of the suture element, the bight being disposed within the body and defining a loop formation, such that the opposed portions of the suture element extend from the vessel wall and the suture element defines a knot between opposed portions thereof after the suture element has been passed through the bight.

73. (Currently Amended) The device of claim 72, wherein the at least one needle is arranged to pass the suture element through the vessel wall such that the suture element

Amendment After Final
Attorney Docket Number: 6771USD1
March 4, 2004

extends through the vessel wall on one side of the aperture, across the aperture, and through the vessel wall on an opposed side of the aperture [and the suture element is held on the body in a position to form a loose knot formation between opposed portions of the suture element after the suture element has been passed through the vessel wall].

74. (Currently Amended) The device of claim 73, wherein [the bight is held on the body to define a loop formation,] the needle being arranged to pass an opposed portion of the suture element through the loop formation after the suture element has been passed through the vessel wall, thereby to position the suture element to form the [loose] knot formation between the opposed portions thereof.

75. (Previously Presented) The device of Claim 74, which comprises at least two needles operatively associated with the suture element, the one needle being arranged to pass the suture element through the vessel wall on one side of the aperture and the other needle being arranged to pass the suture element through the vessel wall on the opposed side of the aperture.

76. (Previously Presented) The device of claim 75, wherein the one needle is arranged to pass the suture element through the vessel wall on the one side of the aperture from a position outside the vessel and the other needle is arranged to pass the suture element through the vessel wall on the opposed side of the aperture from a position inside the vessel.

77. (Previously Presented) The device of claim 76, wherein the other needle is arranged to pass through the vessel wall on the opposed side of the aperture and then to draw the suture from inside the vessel through the vessel wall and through the loop formation.

78. (Currently Amended) The device of claim 77, which further comprises at least one filament [connection element] on the body, the filament [connection element] being arranged to extend across the aperture.

79. (Canceled)

80. (Currently Amended) The device of claim 78, wherein the filament [connection element] is arranged to cooperate with the first and second needles such that when the one needle passes the suture element through the vessel wall on the one side of the aperture, an end of the suture element engages with an end of the filament [connection element], and when the other needle passes through the vessel wall on opposed sides of the aperture, the other needle engages an opposed end of the filament [connection element].

81. (Currently Amended) The device of claim 80, wherein the suture element is releasably engaged on the one needle so that when the one needle has passed the suture

Amendment After Final
Attorney Docket Number: 6771USD1
March 4, 2004

element through the vessel wall on the one side of the aperture and the end of the suture element has engaged with the end of the filament [connection element] and the other needle has been passed through the vessel wall on the opposed side of the aperture and has engaged the opposed end of the filament [connection element], the suture element can be passed through the vessel wall in response to the other needle drawing the filament [connection element] through the vessel wall on the opposed side of the aperture.

82. (Previously Presented) The device of claim 81, wherein the body comprises a shaft portion arranged to be passed through the aperture in the vessel wall.

83. (Currently Amended) The device of claim 82, which comprises an elongate foot formation on the shaft portion, the foot formation being selectively displaceable between a low profile condition, in which the foot is generally aligned with the shaft, and a deployed condition, in which the foot extends generally [laterally] at an angle relative to the shaft.

84. (Currently Amended) The device of claim 83, wherein the filament [connection element] is [mounted] disposed on the foot formation such that the filament [connection element] extends across the aperture when the shaft portion has been passed through the aperture and the foot formation has been displaced into [its] the deployed position.

85-91. (Canceled)

92. (Currently Amended) A method for suturing a puncture in a blood vessel wall, the method comprising:

- providing a first needle carrying a suture element, the suture element having a first end and a bight spaced from said first end;
- advancing the first end of the suture element through the blood vessel wall adjacent the puncture with the first needle;
- coupling the first end of the suture element to a filament [connection element];
- providing a second needle;
- advancing the second needle through the blood vessel wall adjacent the puncture;
- coupling the second needle to the filament [connection element];
- pulling the second needle, filament [connection element], and first end of the suture element through the bight to form a knot; and
- tensioning the suture to affix the suture across the puncture.

92. (Previously Presented) The method of claim 92, further comprising providing a shaft, said first and second needles advanceable along said shaft, said bight being releasably attached to said shaft, and advancing said shaft through a tissue tract of a patient body.